Signetics Site FSS Work Plan
Technical Meeting Notes
November 10, 2022

Timeline of FFS Work Plan (Cynthia Woo):

- Locus submitted first draft on June 28, 2019.
- Based on initial review by APTIM/EPA, the WP was deemed unacceptable, and EPA scheduled a meeting with Locus on August 22, 2019. It was decided that Locus would prepare an FFS WP outline for EPA to review and deadline for the WP submittal was set for October 31, 2019.
- EPA submitted review comments on the FFS WP outline to Locus on October 28, 2019.
- Locus submitted the revised FFS WP on October 31, 2019.
- Currently, Locus has not finalized the WP and pending EPA's review.

Overview of FFS Work Plan (Sue Tituskin):

- Remedial actions to date include soil removal in the early 1980's, SVE system (discontinued in 1996), and groundwater extraction systems to address solvents, primarily TCE.
- Included in the 1991 ROD where selected remedy was to enhance groundwater extraction and expand the SVE system (SVE discontinued in 1996).
- ASAOC for Focused Feasibility Study, Removal Site Evaluation and Removal Action issued in 2019 (SOW in Appendix C, Section III).
- ASAOC includes an FFS to address groundwater. Note that indoor air is addressed separately under Indoor Air Vapor Intrusion RSE and any Necessary Removal Action Work Plan (Vapor Work Plan).
- The first deliverable is the FFS Work Plan (note that required deliverables are outlined throughout this overview).

The FFS Work Plan shall include:

- Procedures for coordinating with EPA to define the specific objectives and overall project scope of the FFS.
- The FFS objectives and overall project scope; (note that the FFS objectives and scope have not been clearly defined in the current Work Plan, which makes it difficult to follow and comment. At a minimum should include:
    - Risks to be addressed
    - Need to modify current remedial action (what is the deficiency or reason to evaluation additional remedial action)
    - Extent of the problem (i.e., is contamination contained)
    - All of the pertinent information may be included in their discussion of the background/remedial actions at the site, but there is no final discussion on the need for additional actions that warrants an FFS.

- Frequency of meetings (e.g., milestone based) with EPA to discuss key project planning decisions and special concerns associated with the Signetics Site.
- Evaluation and summary of existing Site background information and data to assist in planning the specific scope of the FFS, identifying data needs and data quality objectives (DQOs), supporting the development and evaluation of remedial alternatives, including:
    - Data gathered for the historic Remedial Investigation (RI) for the 1991 Record of Decision (ROD), including summary of existing Volatile Organic Compound (VOC) data collected and other relevant physical and chemical characteristics of groundwater at the Signetics Site and Triple Site, including the distribution of VOCs among environmental media at the Signetics Site and Triple Site; water level contours, groundwater flow pathways, and aquifer properties.
    - Data collected during operation and monitoring of the Triple Site groundwater remedies through the present.
    - Data generated during FFS-related activities at the TRW Microwave and AMD 901/902 Thompson Place Sites, to the extent relevant.
    - Description of other previous and ongoing responses conducted at the Signetics Site; and
    - Data collected during various building-specific vapor intrusion evaluations.
- Procedures for updating the conceptual site model (new information on contamination, indoor air vapor intrusion pathway, and contaminant fate and transport conditions).
- Defining expected performance requirements of treatment alternatives, including consideration of: Site physical characteristics; physical and chemical characteristics of groundwater contamination; and volume of contamination and extent of migration.
- Development of strategies for sampling and analysis if additional data needs are identified, as well as establishment of DQOs for collection of necessary additional data; and Submittal for EPA approval DQOs that address all the various types of data which may be collected during the FFS.

The FFS Work Plan shall include evaluation of groundwater flow and water quality conditions,

- Includes preparation and submittal for EPA approval of an Evaluation of Groundwater Containment Technical Memorandum (TM), which will evaluate the status of current groundwater extraction and groundwater plume boundaries to determine if the plume is effectively captured. Will also look at need for additional modeling.

- TM Due 45 days after EPA approval of FFS Work Plan

The FFS Work Plan shall include development of RAOs and Potential Remedial Alternatives,

- Development of preliminary RAOs once the existing data have been evaluated and documentation of RAOs in a TM submitted to EPA for approval; TM due 45 days after EPA approval of Groundwater Model TM.
- Following EPA approval of the RAOs, identification of a preliminary range of broadly defined potential remedial action alternatives and/or general response actions that meet the RAOs; Target areas for treatment or containment, modification of RAOs as needed (new TM).
- Note, RAOs in the current Work Plan are based on the 1991 ROD and very general. These need to be updated once the purpose and scope of the FFS is better defined. Then the RAOs can be made specific to the risks that are addressed by the FFS.

The FFS Work Plan shall identify potential ARARS.

- Needs to look at state and federal and determine most stringent (note that the current work plan does not provide State ARARs, except for drinking water sampling, this section needs to be updated).
- Modify RAOs as needed based on ARARs.

Sampling and Analysis Plan

- Include FSP and QAPP
- Samples needed to support the FFS
- Due 45 days after approval of RAO TM

Health and Safety Plan

- Due 45 days after approval of RAO TM

Treatability Studies

- Locus submitted a Treatability Study Work Plan for Bioremediation on October 18, 2016 (2016 TS Work Plan), which EPA approved on November 1, 2016.
- The 2016 TS Work Plan was implemented between November 2016 and November 2017, after which Respondent submitted an evaluation report on April 10, 2018, with recommendations for expansion.
- Locus submitted Phase 2 EAB Treatability Study Work Plan on October 16, 2019, and subsequent evaluation report on February 25, 2022.

The FFS Work Plan shall include procedures for evaluation and development of treatability studies, if additional studies are deemed to be necessary:

- If additional treatability studies are determined to be necessary after evaluation of the current treatability study, Respondent shall conduct treatability studies for other potential remedies. Respondent shall provide EPA with the following deliverables for review and approval:
    - Identification of Candidate Treatment Technologies Memorandum: due 30 days after EPA approval of groundwater FFS Work Plan
    - Treatability Test Work Plan: due 45 days after EPA approval of Identification of Candidate Treatment Technologies Memorandum
    - Treatability Study Evaluation Report: due 60 days after completion of treatability study activities

Draft FFS Report

- Follows standard FS outline (from guidance).
- For ICs will include: (i) describe the restrictions needed on land, water, or other resources and their relationship to the RAOs; (ii) determine the specific types of ICs that can be used to address and implement the land, water, or other resource use restrictions; (iii) investigate when the ICs need to be implemented and how long they shall remain in place; and (iv) research, discuss, and document any agreement or other arrangements with the proper entities (e.g., state, local government, local landowners, conservation organizations, Respondent) on who will be responsible for implementing, maintaining, and enforcing the ICs.
- Due 60 days after EPA's approval of the Treatability Study Evaluation Report.

Signetics Site FFS Groundwater Issues (Jim Perkins):

- Outline protocols to be used to update the CSM that includes identifying deficiencies to be included in data gap section.
- Describe protocols to be used to update understanding of the hydrogeology including an Environmental Sequence Stratigraphy study.